

## Efficient Methods of Performing Motion Compensation Based Decoding and Recoding

### ABSTRACT OF THE DISCLOSURE

5           The present invention provides efficient methods for performing motion compensation. The methods are particularly useful during motion compensation based decoding and recoding. In one aspect, motion compensation in accordance with the present invention improves on-chip memory usage. This is done by creating and storing a reference  
10       window in the on-chip memory. The reference window is constructed such that the reference frame portions required for motion compensation of a current frame are contained within the reference window and in the on-chip memory with a high frequency. In another aspect, selective methods are provided to recode compressed video data. The methods selectively  
15       apply re-quantization and motion compensation to the residual error between frames of the bitstream based on the amount of motion in the video data.